

## ADVERTISING TRIGGERED BY SEQUENCES OF USER ACTIONS

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not applicable.

### STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

### BACKGROUND

[0003] Advertising within software applications has become an increasing source of revenue. In particular, many software providers have turned to integrating advertisements within their software applications for the purposes of revenue generation. The revenue from fees paid by advertisers often allows software providers to offer software applications to users at a reduced price or even free of charge in some cases.

[0004] Currently, such advertising typically entails presenting large, randomly-selected graphical advertisements to users, for example, within a panel of the graphical user interface of the software applications. It is the advertisers' goal to maximize conversions (i.e., users purchasing products or subscribing to services from the advertisements). However, users often perceive the advertisements as distracting and interfering, resulting in low user satisfaction. Moreover, because the randomly selected advertisements are not effectively targeted, users are often not interested in the products or services offered, resulting in low conversion rates.

[0005] Some operating systems and software applications have been moving toward a user-centric design model as opposed to, for example, a system-centric design. One outcome of this shift has been the introduction and use of tasks. A task may be defined as a grouping of user actions that is commonly repeated and results in a successful achievement of a user goal. For example, in some applications, a preview-pane may be used to display commonly available tasks. These tasks are related to the current system state and other recently performed actions or tasks. For example, if a user has navigated to a window with a directory full of MP3 files, the tasks may include, for instance: play the file, add the file to a play list, and play a snippet of the file. As another example, if the user is viewing a list of contacts, the tasks may include, for instance: e-mail this contact, send a chat message to this contact, and call this contact on the phone. Each task typically consists of a grouping of simpler actions, such as clicking on buttons or choosing from menus, for example.

[0006] In some cases, however, some tasks might not be enabled because of missing hardware or software. For example, in the context of a user navigating to a list of MP3 files, one task may be to play an MP3 file. If the user device does not have an MP3 decoder installed, the task to play the MP3 file will not be enabled. In other cases, some currently enabled tasks may be further enhanced, for instance, by installing improved hardware or software. For example, a user may navigate to an area for selecting video games. Although the user device may have a graphics card, other

graphic cards may be available that provide an improved user experience while playing such games. Often, however, users may not know how to quickly or efficiently enable or enhance such tasks.

### BRIEF SUMMARY

[0007] This summary is provided to introduce a selection of concepts in a simplified form that are further described below in the Detailed Description. This summary is not intended to identify key features or essential features of the claimed subject matter, nor is it intended to be used as an aid in determining the scope of the claimed subject matter.

[0008] In embodiments, advertisements may be selected for presentation based on user actions within a computing environment. Advertisements may be selected and presented to a user if the products or services associated with the advertisements would enable or enhance a task that a user may be attempting to perform. As a user performs a sequence of actions, the user actions are tracked, and most likely action paths (e.g., each path comprising a task) are identified. Upon identification of the most likely tasks that a user may wish to perform, those tasks that are not currently enabled or that may be enhanced are determined. Such "non-enabled" tasks or "enhanceable" tasks may be identified by accessing global system information for the user's computing device, including such information as installed software, installed hardware, current system state, and current service subscriptions. Advertisements associated with products or services that would enable the non-enabled tasks or enhance the enhanceable tasks are selected and presented to the user. A user may act based on an advertisement in order to access and/or purchase an associated product or service, thereby enabling or enhancing a task.

### BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING

[0009] The present invention is described in detail below with reference to the attached drawing figures, wherein:

[0010] FIG. 1 is a block diagram of an exemplary computing environment suitable for use in implementing the present invention;

[0011] FIG. 2 is block diagram of an exemplary system for selecting and presenting advertisements based on user actions in accordance with an embodiment of the present invention

[0012] FIG. 3 a flow diagram showing an exemplary method for selecting an advertisement based on user actions in accordance with an embodiment of the present invention;

[0013] FIG. 4 is a flow diagram showing an exemplary method for enabling or enhancing a task using an advertisement selected based on user actions in accordance with an embodiment of the present invention;

[0014] FIG. 5 is an illustrative screen display of an exemplary user interface presenting advertisements in accordance with an embodiment of the present invention;

[0015] FIG. 6 is another illustrative screen display of an exemplary user interface presenting advertisements in accordance with an embodiment of the present invention; and

[0016] FIG. 7 is a further illustrative screen display of an exemplary user interface presenting advertisements in accordance with an embodiment of the present invention.